Project # 606-0786 10MG Transfer Pump Station Upgrade

Project Description

The existing transfer pump station, located on the 10 MG reservoir site at Bull Mountain Road/125th Avenue, serves both the 550-foot and 713-foot service zones. The Water Distribution System Hydraulic Study identified a need to replace this pump station with one that would provide a higher pumping capacity to both service zones. Construction of this improvement increases pumping capacity from 2,000 gpm to 3,300 gpm for the 713-foot service zone. The pump station will also provide 3,900 gpm to the 550-foot zone Reservoir No. 2. Along with the piping improvements, the existing pump station at the Canterbury site (Pump Station No. 1) will be abandoned.

Location: Bull Mountain Rd. & 125th Ave. **Status**: Proposed FY 2007-08

Funded



Funding Sources:

 Water CIP
 \$2,910,000

 Total Funding Sources
 \$2,910,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$50,000

Construction \$2,860,000

Total Costs \$50,000 \$2,860,000

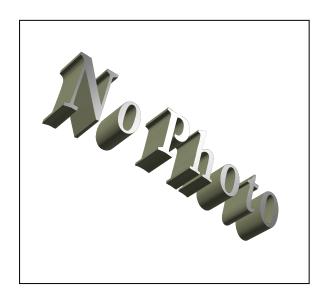
Project #606-0296 550' Zone Beaverton Connection

Project Description

The City's water system is currently connected with the City of Beaverton (Joint Water Commission) in the 410' elevation zone. This project will create a second connection to serve the 550' elevation zone. This project may also allow the City to delay construction of a 550' zone reservoir on the north side of Bull Mountain for several years.

Location: n/a **Status**: Proposed FY 2007-08

Funded



Funding Sources:

 Water SDC
 \$116,000

 Water Fund
 \$ 84,000

 Total Funding Sources
 \$200,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$200,000

Total Costs \$200,000

Project Manager: Dennis Koellermeier, Public Works

Project # 607-0812 Ash Avenue Extension Waterline

Project Description

This project would be in conjunction with the Ash Avenue extension from Burnham to the railroad tracks. Since this would be a new extension of a public street, it is anticipated that a new 8-inch public water line would be needed. Funds for the water system would include design and construction costs.

<u>Location</u>: Burnham St. to Railroad Tracks <u>**Status**</u>: Proposed FY 2007-08

Funded



Funding Sources:
Water SDC
Total Funding Sources

\$46,000 **\$46,000**

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$6,000

Construction \$40,000

Total Costs \$6,000 \$40,000

Project Manager: Vannie Nguyen & Rob Murchison

Capital Construction & Transportation /

Public Works

ASR 1 Rehabilitation

Project Description

Rehabilitation of ASR wells is recommended every six years. Typical work involved may include removal of the pump and reconditioning of the well. In the case of ASR 1, it is also anticipated that a down-hole control valve will be installed, which will likely help eliminate air entrapment in the well due to the cascade effect during the recharge period.

Location: TBD **Status**: Proposed FY 2010-11

Funded



Funding Sources:

Water Fund \$170,000 **Total Funding Sources** \$170,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$20,000

Construction \$150,000

Total Costs \$170,000

Project # 607-0514 ASR Expansion Studies

Project Description

The City's hydro geologist of record will assist Staff in locating potential sites for additional aquifer storage and recovery (ASR) wells. In addition, test wells must be drilled by a qualified well driller in order for the hydro geologist to determine suitability of the well for ASR purposes. Therefore, these studies will include both consulting services and drilling services.

For budgeting purposes, Staff assumes that each test well site will be deemed as good ASR well sites. When this occurs, it is most economical to have the driller remain on site and ream the well to the larger production well diameter. The funds projected in this line item assume this to be the case.

Staff anticipates completing a new well to be located at the 550-foot Zone Reservoir No. 2 site at the beginning of 07/08, and potentially exploring an additional well site with drilling for the remainder of the fiscal year.

Location: TBD **Status**: Proposed FY 2007-08

Funded



Funding Sources:

 Water CIP
 \$810,000

 Total Funding Sources
 \$810,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$100,000

Construction \$710,000

Total Costs \$810,000

Project Manager: Rob Murchison & Brian Rager, Public Works

Project # 607-0833 Cathodic Protection of Steel Reservoirs

Project Description

Steel reservoirs are vulnerable to corrosion over time due to exposure to the elements. Installation of impressed (DC voltage) cathodic protection should extend the life of the interior coating of the tank up to 15 years. This would defer re-coating of the tank interior until that time. Cathodic Protection Systems are widely used and considered industry standard regarding corrosion control of steel interior water storage tanks.

<u>Location</u>: TBD <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

Water Fund \$45,000 **Total Funding Sources** \$45,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$45,000

Total Costs \$45,000

Project Manager: John Goodrich, Public Works

Defective Meter Replacements

Project Description

This has been one of the long-term projects for the Public Works Department. The meter replacement program covers two size ranges of meters. First, the program covers systematic testing, repair and/or replacement of all 1 ½-inch and larger water meters. Meters of this size have developed problems where actual water flows are inaccurately measured; most of the time, the volume of water is under-reported. The result is that water customers could be using more water than they are being assessed. Testing and or replacement of these water meters have proven to make financial sense in that the investment is recouped by the additional revenues received due to accurate meters.

The second part of the program covers meters of less than 1 1/2-inch in size. These are replaced as needed when problems are noted.

Location: Various

Status: Proposed FY 2007-08
Funded



Funding Sources: Water Fund

Total Funding Sources

\$270,800 \$270,800

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$50,000 \$52,000 \$54,000 \$56,300 \$58,500

Total Costs \$50,000 \$52,000 \$54,000 \$56,300 \$58,500

Meter Installations

Project Description

This on-going program ties in with the Water Service Installations program. When new water customers, or existing customers who need an additional water service, apply for a new service, Public Works staff install the service line and will set the new meter.

<u>Location</u>: Various <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

Water Fund \$230,000 Total Funding Sources \$230,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$60,000 \$50,000 \$45,000 \$40,000 \$35,000

Total Costs \$60,000 \$50,000 \$45,000 \$40,000 \$35,000

Project Manager: Sam Morrison, Public Works

Project # 607-0821 Pipe Replacement (Commercial St.)

Project Description

Commercial Street is located in the downtown area of Tigard. The improvements involve reconstruction of the existing pavement and base and construction of sidewalk on the north side of the street to provide a safe walk for the neighborhood to the proposed Commuter station, bus stops and businesses on Main Street.

As a part of this street project, it is proposed that the existing cast iron water main be replaced with a new 8-inch ductile iron main. Older cast iron main lines are prone to failure as they age, and street projects such as this are ideal opportunities for upgrading.

<u>Location</u>: Between Lincoln & Main St. <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

Water CIP \$135,000 Total Funding Sources \$135,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$15,500

Construction \$119,500

Total Costs \$135,000

Project Manager: Vannie Nguyen & Rob Murchison

Capital Construction & Transportation /

Public Works

Project # 608-0834 Reservoir Seismic Upgrades

Project Description

In FY 07/08, a Reservoir Seismic Upgrade Evaluation will be completed to determine what upgrades should be completed at existing reservoirs. Staff anticipates the actual improvements will need to be constructed over a three-year period, beginning FY 2009.

<u>Location</u>: TBD <u>Status</u>: Proposed FY 2008-09

Funded



Funding Sources:

Water Fund \$937,000 **Total Funding Sources** \$937,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$300,000 \$312,000 \$325,000

Total Costs \$300,000 \$312,000 \$325,000

<u>Project # 609-0578</u> <u>Walnut Street (116th to Tiedeman):</u> <u>Relocate 12-inch Waterline</u>

Project Description

In conjunction with the Street Program reconstruction project, the existing 12-inch main waterline will need to be relocated. This project will include design/engineering and construction costs.

<u>Location</u>: TBD <u>Status</u>: Proposed FY 2009-10

Funded



Funding Sources:

 Water Fund
 \$170,000

 Total Funding Sources
 \$170,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$22,000

Construction \$105,000 \$43,000

Total Costs \$127,000 \$43,000

Project Manager: Vannie Nguyen & Rob Murchison

Capital Construction & Transportation /

Public Works

Project # 607-0873 Water Building: Water Conservation Demonstration Garden

Project Description

The Water Building, located at the northwest corner of Burnham Street/Hall Boulevard, will be remodeled on the interior in FY 06/07 to accommodate a temporary and partial consolidation of Public Works. The adjacent street intersection is also a location designated as a downtown entryway. As Tigard continues to support regional water conservation efforts, one way of providing public education is in the area of landscaping. Tigard currently provides incentives to customers who demonstrate they have installed water-saving elements into their irrigation design.

Another excellent way of providing education to customers is by establishing a demonstration garden that would incorporate a variety of water-saving irrigation features, creative plant selection and layout. Such a demonstration garden located at this City building would provide good access to pedestrians who will be visiting the downtown area.

<u>Location</u>: TBD <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

Water CIP \$50,000 **Total Funding Sources** \$50,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$6,500

Construction \$43,500

Total Costs \$50,000

Water Main Oversizing

Project Description

During the course of the year the City may find the need to upsize a planned pipeline through a new development, thus accomplishing an identified capital improvement as listed in the "Water Distribution System Hydraulic Study – May 2000."

<u>Location</u>: Various <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

 Water SDC
 \$425,000

 Total Funding Sources
 \$425,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$125,000 \$75,000 \$75,000 \$75,000

Total Costs \$125,000 \$75,000 \$75,000 \$75,000 \$75,000

Water Main Replacements

Project Description

This on-going program is based on the needs identified in the "Water Distribution System Hydraulic Study – May 2000", and is for the routine replacement of leaking, damaged and older water mains throughout the water system. In most cases the existing mains have adequate capacity and will be replaced with the same diameter water mains. This program is also for the completion of loops in the system to maintain hydraulic efficiencies.

NOTE: Larger amounts shown in FY 08/09 and 11/12 due to anticipated main replacements related to the proposed Main Street reconstruction projects.

Location: Various Status: Proposed FY 2007-08

Funded



Funding Sources:

Water Fund \$315,300 **Total Funding Sources** \$315,300

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$50,000 \$75,000 \$54,000 \$56,300 \$80,000

Total Costs \$50,000 \$75,000 \$54,000 \$56,300 \$80,000

Project Manager: Sam Morrison, Public Works

<u>Project # 606-0597</u> Water Reservoir Seismic Upgrade Evaluation

Project Description

This is the second year of a two-year program that will review all of Tigard's water reservoirs for conformity to current seismic standards and recommend upgrades where needed.

<u>Location</u>: TBD <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

Water Fund \$70,000 **Total Funding Sources** \$70,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$70,000

Total Costs \$70,000

Project # 607-0303 Water Service Installations

Project Description

This is a long-term program for the department. Each year the City adds new customers to the system through individual building permits or additional water services. Customers apply for a new water service, and Public Works staff installs the service line and will set the meter (see Meter Installations line item).

<u>Location</u>: Various <u>Status</u>: Proposed FY 2007-08

Funded



Funding Sources:

Water Fund \$54,200 **Total Funding Sources** \$54,200

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$10,000 \$10,400 \$10,800 \$11,300 \$11,700

Total Costs \$10,000 \$10,400 \$10,800 \$11,300 \$11,700

Project Manager: Sam Morrison, Public Works

Project # 607-0595 Water Site Security Upgrades

Project Description

This project will accomplish the water site security upgrades that were identified in the PW Vulnerability Assessment and Emergency Response Plan. The security upgrades will include improvements to such things as access, fencing, intrusion alarms, and monitoring. The implementation of these improvements is estimated to take place over a 20-year period.

Location: TBD **Status**: Proposed FY 2007-08

Funded



Funding Sources:
Water Fund \$271,000
Total Funding Sources \$271,000

Total Funding Sources \$271,000

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering

Construction \$50,000 \$52,000 \$54,000 \$56,500 \$58,500

Total Costs \$50,000 \$52,000 \$54,000 \$56,500 \$58,500

Project Manager: John Goodrich, Public Works

Project # 607-0782 550' Zone Reservoir No. 2 and Supply Piping

Project Description

This reservoir will be located on Bull Mountain and will serve the south and eastern portions of the 550-foot pressure zone. Constructing this reservoir will eliminate some of the demand currently supplied by the 713-Foot pressure zone. Supply to the reservoir will be provided through the transfer pump station upgrade.

This project will also include the supply piping necessary between the transfer pump station and the new reservoir, as well as the supply piping from the reservoir to the existing 550-foot pressure zone to the south.

Location: Bull Mountain

Funding Sources:
Water CIP

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Total Funding Sources \$5,960,000

\$5,960,000

Status: Proposed FY 2007-08
Partially Funded



Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$400,000

Construction \$4,000,000 \$1,560,000

Total Costs \$4,400,000 \$1,560,000

Project # 607-0584 ASR 3

Project Description

The City will continue to expand its aquifer storage and recovery well system. It is anticipated that a production well will be drilled and well head improvements installed at a location where testing has occurred and have proven positive.

<u>Location</u>: Bull Mountain Rd. & 125th Ave. <u>Status</u>: Proposed FY 2007-08

Partially Funded



Funding Sources:

 Water CIP
 \$1,800,000

 Total Funding Sources
 \$1,800,000

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$300,000

Construction \$1,500,000

Total Costs \$300,000 \$1,500,000

IWC Raw Water Pipeline

Project Description

This project will include a pipe connection between the JWC treatment plant and the headwork at Scoggins Dam. At present, water from Hagg Lake makes its way to the treatment plant via an open channel waterway and the Tualatin River. There are two problems with the existing system. First, the JWC treatment plant must submit a request to the Scoggins Dam control authority to release more water into the open channel system as the demand rises. But the treatment plant can only handle a certain volume of water at the intake; any extra water bypasses the plant and continues down the river. Therefore, there is a loss in efficiency. Second, it is estimated that 20% of the water from Scoggins Dam is lost to evaporation prior to reaching the treatment plant. This raw water pipeline will allow the JWC to control how much water is released from the dam into the pipe so that only the flow rate needed by the treatment plant will be released. In addition, the pipeline will eliminate the water loss due to evaporation and will provide more capacity to the JWC system.

Location: Hagg Lake

Status: Proposed FY 2007-08
Partially Funded



Funding Sources:

 Water CIP
 \$7,530,224

 Total Funding Sources
 \$7,530,224

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$90,000

Construction \$1,500,000 \$2,970,112 \$2,970,112

Total Costs \$90,000 \$1,500,000 \$2,970,112 \$2,970,112

Project # 607-0439 Scoggins Dam / Tualatin Water Supply

Project Description

As part of obtaining a long term water source for the Tigard service area, the City is partnering with other Joint Water Commission (JWC) owners for the Scoggins Dam Raise feasibility report. Raising the dam would increase the storage volume of Hagg Lake and would therefore provide more capacity for JWC member cities.

Location: Hagg Lake

Status: Proposed FY 2007-08
Partially Funded



Funding Sources:

 Water CIP
 \$5,816,000

 Total Funding Sources
 \$5,816,000

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design \$400,000 \$700,000

Design & Engineering \$700,000

Construction \$1,016,000 \$3,000,000

Total Costs \$400,000 \$700,000 \$700,000 \$1,016,000 \$3,000,000

Project Manager: Dennis Koellermeier, Public Works

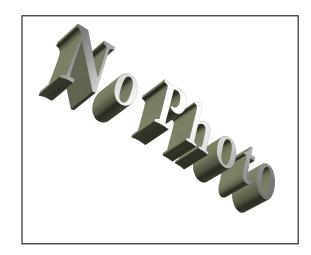
550' Reservoir No. 1

Project Description

The City's Water System Hydraulic Master Plan calls for a 550' Zone reservoir on the north side of Bull Mountain to serve that section of the pressure zone.

Location: Northside of Bull Mountain **Status**: Proposed FY 2009-10

Unfunded



Funding Sources:

 Water CIP
 \$4,200,000

 Total Funding Sources
 \$4,200,000

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$200,000

Construction \$2,000,000 \$2,000,000

Total Costs \$200,000 \$2,000,000 \$2,000,000

Project # 608-0681 550' Zone 12" Canterbury Loop

Project Description

This project will involve upsizing of existing water lines to a 12" supply line to feed the Canterbury hill neighborhood in the 550' zone.

<u>Location</u>: Canterbury Hill Neighborhood <u>Status</u>: Proposed FY 2008-09

Unfunded



Funding Sources:

 Water CIP
 \$830,000

 Total Funding Sources
 \$830,000

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$125,000

Construction \$664,000 \$41,000

Total Costs \$789,000 \$41,000

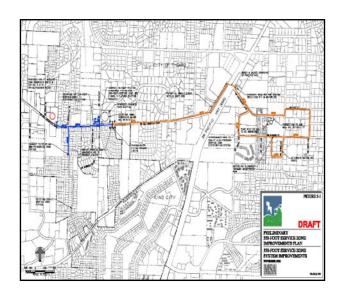
Project # 608-0679 550' Zone 18" Canterbury Supply Line

Project Description

This project will construct a transmission line from the 10 MG Transfer Pump Station area to the 550' zone around Canterbury hill and will involve crossing Highway 99W.

Location: Canterbury Hill Neighborhood

Status: Proposed FY 2008-09 Unfunded



Funding Sources:

 Water CIP
 \$1,415,000

 Total Funding Sources
 \$1,415,000

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$185,000

Construction \$984,000 \$246,000

Total Costs \$1,169,000 \$246,000

Project Manager: Dennis Koellermeier, Public Works

ASR 4

Project Description

The City will continue to expand its aquifer storage and recovery well system. It is anticipated that a production well will be drilled and well head improvements installed at a location where testing has occurred and have proven positive.

Location: TBD Status: Proposed FY 2009-10

Unfunded



Funding Sources:

 Water CIP
 \$1,300,000

 Total Funding Sources
 \$1,300,000

Funding contingent upon revenue bond sale in FY 2008-09 and FY 2010-11.

Fiscal Years 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012

Land/Right-of-Way

Pre-Design

Design & Engineering \$300,000

Construction \$1,000,000

Total Costs \$300,000 \$1,000,000